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Amendment

Please amend this application as follows:

In the CLAIMS

1. (Currently Amended) A weld joint comprising a first workpiece, a second workpiece, and a weld body joining said first workpiece and said second workpiece, which weld body ~~is substantially free of tension anomalies, and~~ comprises ~~an area attributable to~~ a ~~higher order pass that comprises~~slag-free weld puddle of substantially pure nickel that yields a weld joint substantially free of porosity.

2. (Original) A weld joint as in Claim 1, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 83.5% nickel.

3. (Original) A weld joint as in Claim 1, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 90% nickel.

4. (Currently Amended) A weld joint comprising a first ~~work segment~~workpiece, a second ~~work segment~~workpiece, and a weld body joining said first workpiece and said second workpiece, said weld body comprising an area attributable to a higher order pass that comprises substantially pure nickel, the surface of which is substantially free of slag and slag residuals, and which surface exhibits ~~having~~ an average of four or fewer ~~tension anomalies~~ pits visible to a naked eye per square

Attorney of Record
Nathan W. Johnson
205-521-8369

inch~~, said weld body comprising an area attributable to a higher order pass that comprises substantially pure nickel~~.

5. (Original) A weld joint as in Claim 4, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 83.5% nickel.

6. (Original) A weld joint as in Claim 4, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 90% nickel.

7. (Currently Amended) A weld joint as in Claim 4, wherein said weld body has an average of three or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

8. (Original) A weld joint as in Claim 7, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 83.5% nickel.

9. (Original) A weld joint as in Claim 7, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 90% nickel.

10. (Currently Amended) A weld joint as in Claim 4, wherein said weld body has an average of two or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

Attorney of Record
Nathan W. Johnson
205-521-8369

11. (Original) A weld joint as in Claim 10, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 83.5% nickel.

12. (Original) A weld joint as in Claim 10, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 90% nickel.

13. (Currently Amended) A weld joint as in Claim 4, wherein said weld body has an average of one or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

14. (Original) A weld joint as in Claim 13, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 83.5% nickel.

15. (Original) A weld joint as in Claim 13, wherein said area attributable to a higher order pass comprises greater than or equal to approximately 90% nickel.

16. (Currently Amended) A weld comprising a higher order pass, and having a gradient of nickel purity as measured along a throat of said weld that generally increases between a root of said weld and a point within said higher order pass, said higher order pass being weldable with another weld pass without removal of slag.

17. (Currently Amended) A weld comprising a second order pass and a plurality of higher order passes, said plurality of higher order passes comprising at least a

Attorney of Record
Nathan W. Johnson
205-521-8369

third order pass and a fourth order pass, the weld having a gradient of nickel purity that generally increases from a second order pass through said third order pass and said fourth order pass, and being substantially free of porosity and of slag.

18. (Currently Amended) A weld comprising a higher order pass, and having a gradient of nickel purity as measured along a throat of said weld that generally increases as the distance from a root of said weld increases, a face of said weld having an average of four or fewer ~~tension anomalies~~ pits visible to a naked eye per square inch, said face being substantially free of slag~~-~~.

19. (Currently Amended) A weld as in Claim 18, wherein the face of said weld has an average of three or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

20. (Currently Amended) A weld as in Claim 18, wherein the face of said weld has an average of two or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

21. (Currently Amended) A weld as in Claim 18, wherein the face of said weld has an average of one or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

Attorney of Record
Nathan W. Johnson
205-521-8369

22. (Currently Amended) A slag-free weld comprising a plurality of passes, which passes comprise a second order pass and at least one higher order pass; wherein

    a. a plurality of said passes generally increase in nickel purity as the order number increases; and wherein further
    b. the last of which passes to increase in nickel purity has an average of four or fewer ~~tension anomalies~~ pits visible to a naked eye per square inch; and wherein further
    c. no pass comprises any flux inclusions.

23. (Currently Amended) A weld as in Claim 22, wherein the last of which second and higher order pass zones to increase in nickel purity has an average of three or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

24. (Currently Amended) A weld as in Claim 22, wherein the last of which second and higher order pass zones to increase in nickel purity has an average of two or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

25. (Currently Amended) A weld as in Claim 22, wherein the last of which second and higher order pass zones to increase in nickel purity has an average of one or fewer ~~tension anomalies~~pits visible to a naked eye per square inch.

26. (Currently Amended) A method of producing a highly ductile weld, comprising the steps of:

Attorney of Record
Nathan W. Johnson
205-521-8369

a. selecting a weld wire comprising substantially pure nickel

b. in the absence of flux, fusing a weld bead of said weld wire onto a workpiece, whereby a first weld pass of weld bead is welded

c. fusing to said first weld pass at least one weld pass of said weld wire, whereby an intermediary pass of weld bead is welded

d. in the presence of a substantially pure inert gas, fusing to said intermediary pass at least one weld pass of said weld wire in a substantially undiluted condition.

27. (Original) A method of producing a highly ductile weld as in Claim 26, wherein said substantially pure inert gas comprises an inert gas in combination with reducing gasses.

28. (Original) A method of producing a highly ductile weld as in Claim 26, wherein said substantially pure inert gas comprises argon gas.

29. (Original) A method of producing a highly ductile weld as in Claim 26, wherein said substantially pure inert gas comprises argon gas in combination with reducing gasses.

30. (Original) The method of creating a welded ductile iron joint according to Claim 26, further comprising the step of abstaining from pre-heating, post-heating, or chemical antimartensitizing treatment of a heat affected zone.

Attorney of Record
Nathan W. Johnson
205-521-8369

31. (Original) The method of creating a welded ductile iron joint according to Claim 26, wherein at least one of steps b, c, and d is accomplished by a skip welding technique.

32. (Original) The method of creating a welded ductile iron joint according to Claim 26, wherein at least one of steps b, c, and d is accomplished using a liquid cooled welding torch.

33. (Original) The method of creating a welded ductile iron joint according to Claim 26, wherein at least one of steps b, c, and d is accomplished using a pulse MIG welder.

34. (Original) The method of creating a welded ductile iron joint according to Claim 26, wherein said fusing in at least one of steps b, c, and d occurs by means of spray transfer welding.

35. (Currently Amended) A method of producing a highly ductile weld, comprising the steps of:

    a. selecting a weld wire comprising substantially pure nickel;

    b. fusing by spray transfer a weld bead of said weld wire onto a workpiece using a liquid cooled welding torch operated in a skip welding technique, whereby a first weld pass of weld bead is welded;

Attorney of Record
Nathan W. Johnson
205-521-8369

c. fusing by spray transfer to said first weld pass at least one weld pass of said weld wire using a liquid cooled welding torch operated in a skip welding technique, whereby an intermediary pass of weld bead is welded;

d. in the presence of a substantially pure inert gas, using a liquid cooled welding torch operated in a skip welding technique to fuse, in the absence of flux, by spray transfer to said intermediary pass at least one weld pass of said weld wire in a substantially undiluted condition.

36. (Original) The method of creating a welded ductile iron joint according to Claim 35, wherein at least one of steps b, c, and d is accomplished using a pulse MIG welder.

37. (Original) The method of creating a welded ductile iron joint according to Claim 35, further comprising the step of abstaining from pre-heating, post-heating, or chemical antimartensitizing treatment of a heat affected zone.

38. (Original) A method of producing a highly ductile weld as in Claim 35, wherein said substantially pure inert gas comprises an inert gas in combination with reducing gasses.

39. (Original) A method of producing a highly ductile weld as in Claim 35, wherein said substantially pure inert gas comprises argon gas.

Attorney of Record
Nathan W. Johnson
205-521-8369

40. (Previously Presented) A method of producing a highly ductile weld as in Claim 35, wherein said substantially pure inert gas comprises argon gas in combination with a reducing gas.

41. (Currently Amended) A method of creating a welded ductile iron joint having a yield strength of less than a tensile strength of a heat affected zone in said ductile iron joint, comprising compensating for a brittleness of said heat affected zone by creating a highly ductile weld bead in the absence of flux using a filler metal or a consumable electrode of a high ductility material consisting essentially of nickel.

42. (Original) The method of creating a welded ductile iron joint according to Claim 41, wherein said heat affected zone is not subjected to any of pre-heating, post-heating, or chemical antimartensitizing treatment.

43. Cancelled